

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1, 4-5, 7-10 and 25-26 have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 4-5, 7-10 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stypulkowski (US 7,286,878 B2) in view of Cox et al. (US 6,141,588). Stypulkowski discloses an electrode array extension with an IPG 220 connected to an extension unit (EU) 226 as seen in figure 2. The examiner considers the IPG 220 to be the central control module and the EU 226 to be the satellite module. Stypulkowski discloses that the switches can be controlled by a "source external to the body" (col. 4, lines 51) which means there is necessarily wireless communication with an external programmer. Additionally, Stypulkowski discloses that "the structure and the operation

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of IPGs is known to those skilled in the art“(col. 3, lines 15-16). Therefore, the IPG employed in the system would necessarily have a power source and a wireless receiver to communicate with an external programmer. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the IPG as taught by Stypulkowski with a power source and a wireless receiver since it was known in the art that to incorporate a power source and a wireless receiver into IPGs in order to provide the predictable results of facilitating communication with external programmers.

5. As seen in figure 3 the EU or satellite module, contains switches 310-312 which the examiner considers to be the switching module, a communication circuit 322 which the examiner considers the communication module, the controller 320 which the examiner considers the processor, a plurality of second leads 314-319 and wave shaping circuits 306-308.

6. As to the signal generator located in the satellite module, the examiner considers the shaping circuits 306-308 to be a signal generator since they generate the signals and are electrically connected to the switches 310-312 which will selectively route the signals. Additionally, the “controller 320 may include hardware or software to recognize programming signals and for programming wave shaping circuits 306-308 and/or switches 310-312” (col. 5, lines 4-7). Therefore, the processor or controller controls the signal generator or wave shaping circuits 306-308 to influence the signals generated. Also, since the controller 320 contains hardware/software it contains memory to store the software.

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7. As to addition components recited in claim 1, Stypulkowski is silent about the satellite module containing a sense amp and A/D converter. However, the system includes biomedical sensors which would necessarily include a sense amp and A/D converter. In addition, since the “wave shaping circuits 306-308 may be implemented with a variety of electrical components including potentiometers and integrated circuits” (col. 4, lines 34-36), the system would necessarily contain a sense amp and a A/D converter.

8. In the alternative, although the examiner considers Stypulkowski to disclose a sense amp and a A/D converter above, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a sense amp and an A/D converter since such a modification would provide the predictable result of amplifying a signal and converting the signal between analog and digital format in order to store enhance the analysis and storage of the signals. Furthermore, it is well known in the art to employ sense amps and A/D converts when recording and/or transmitting signals to the body.

9. As to claims 1 and 25, Stypulkowski discloses in col. 5, lines 2-7, “IPG 220 (shown in FIG. 2) can be used to program extension unit 226. In particular, input lines 302-304 are connected to controller 320. Controller 320 may include hardware or software to recognize programming signals and for programming wave shaping circuits 306-308 and/or switches 310-312.” Therefore, Stypulkowski does disclose the first lead or elongated conductor transmitting “programming signals” to the IPG or wireless receiver.

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10. Stypulkowski further discloses the satellite module, EU, having a battery.

Stypulkowski discloses the device substantially as claimed but does not disclose that the first lead or elongated conductor carries power from a power source to the satellite component. Cox et al. discloses a planet (an IPG) and associated satellite modules. Cox et al. discloses in cols. 10-11, lines 66-67 and 1-5, respectively, "Although a battery (not specifically shown) could be used to provide electrical power for the satellite circuitry, it is preferred that electrical power for operating the satellites' components be derived from the electromagnetic energy received from the planet. Alternatively, some of the electromagnetic energy could be used to recharge a battery if provided in each satellite." As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the battery of Stypulkowski to be a rechargeable battery that derives power from the IPG to recharge as taught by Cox et al. in order to provide the predictable results of extending the life of the EU and preventing the need to explant the EU when the battery power is exhausted.

11. As to claim 7, the modified Stypulkowski discloses the claimed invention except for the logic block and buffer system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the switching module and memory to include a logic block and buffer, in order to provide the predictable results of enhanced signal transmission.

***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alyssa M. Alter whose telephone number is (571)272-4939. The examiner can normally be reached on M-F 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Niketa Patel can be reached on (571) 272-4156. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alyssa M Alter/  
Examiner  
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